

U.S.S.N. 10/707,322

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140808MG (GEMS 0232 PA)

IN THE SPECIFICATION:

Please replace paragraph [0023] with the following amended paragraph:

[0023] Referring now to FIGURE 1, a block diagrammatic view of a MRI system 2 is shown. The system includes a substantially cylindrical member that defines a scanning bore 6 for scanning a patient 4 lying on a table 9. The scanning bore 6 includes a RF body coil assembly 8 mounted therein. Two section views of an RF body coil assembly 8 according to the prior art are described below in Figures 2 and 3.

Please replace paragraph [0026] with the following amended paragraph:

[0026] A computer 67 56 controls all components of the MRI system 2. The RF components under the control of the computer 67 56 are the radio frequency source 63 and pulse programmer 66. The source 63 produces a sine wave of the desired frequency. The pulse programmer 66 shapes the RF pulses into apodized sinc pulses. The RF amplifier 64 increases the pulses power from milliwatts to kilowatts to drive the RF coils contained within the RF body coil assembly 8. The computer 67 56 also controls the gradient pulse programmer 70 that sets the shape and amplitude of each of the three gradient fields. The gradient amplifier 68 increases the power of the gradient pulses to a level sufficient to drive the gradient coils contained within the gradient coil assembly 52.

Please replace paragraph [0027] with the following amended paragraph:

[0027] The operator of the MRI system 2 gives input to the computer 67 56 through a control console 78. An imaging sequence is selected and customized from the console 78. The patient 4 is placed on the table 9 and positioned within the bore 6. The computer 67 56 also controls the movement of the table 9, which has a desired positioning accuracy (typically around 1 mm). The image is taken when the patient 4 is properly positioned, and the operator can see the images on the video display monitor 79 located on the console 78 or can make hard copies of the images on the film printer 80.

Please replace paragraph [0028] with the following amended paragraph:

[0028] An image reconstruction apparatus, or digitizer 74, reconstructs the received magnetic resonance signals received by an RF detector 72 into an electronic image representation that is stored in an image memory 76 of the computer 67 56. An image reconstruction device, such as a video processor 77, converts stored electronic images into an appropriate format for display on a video monitor 79. The scanned image may also be printed from the computer 67 56 in film form 80.

Please replace paragraph [0038] with the following amended paragraph:

[0038] As best seen in Figure 5, at the ends of the RF body coil assembly 8, each of the ends of the hollow structures 43 are brazed to fittings, here shown as a copper stub pipe 59. The copper stub pipe 59 in turn is coupled to a non-conducting manifold, here a rubber manifold 61, that is plumbed in to a coolant source 63 67 to provide a single feed and return connection. Deionized water or other non-conductive cooling liquids introduced to the hollow conductive structure 43 from the coolant source 63 67 is maintained between about 15 and 24 degrees Celsius to ensure that the patient bore 6 is maintained below 24 degrees Celsius during the MRI scan.

Please replace paragraph [0041] with the following amended paragraph:

[0041] As best seen in Figure 7, at the ends of the RF body coil assembly 8, the hollow structures 43 are brazed to fittings, here shown as a copper stub pipe 59. The hollow structures 43 are also plugged with a brazed copper plug 63 57. The copper stub pipe 59 in turn is coupled to a non-conducting manifold, here a rubber manifold 61, that is plumbed into a coolant source, here shown as a water source 67, to provide a single water feed and return connection. The water introduced to the hollow conductive structure 43 from the water source 67 is maintained between about 15 and 24 degrees Celsius to ensure that the patient bore 6 is maintained below 24 degrees Celsius during the MRI scan. In addition, the flow rate of water through the hollow conductor structures 43 may also be controlled to maintain the patient bore 6 below the maximum allowable temperature as desired.